1855 Le Verrier made proposals for an international weather service. Norway was greatly interested in the new movement, and in 1860 C. Nielsen, director of telegraphs in Norway, established five stations along the coast—Christiansund, Aalesund, Skudenes, Mandal, and Sandøsund—with the necessary instruments and staff. At these stations observations were made three times daily of pressure, temperature, humidity, wind, weather, and cloud. A short time later an inland station was established at Dombaas, and reports were exchanged between these stations and Sweden, and also, after a few years, with Paris.

The six stations were soon found to be insufficient for the proper development of meteorological work in Norway, and in 1865 it was resolved to erect a meteorological institute and to appoint a professor of meteorology. The institute was commenced, and in 1865 Henrik Mohn was appointed professor of meteorology and director of the meteorological institute. New instruments were installed at the existing stations, and on December 1, 1866, the Norwegian Meteorological Institute began its operations, with the cooperation of the six stations mentioned and also of Bergen and Christiania.

Prof. Mohn's initiative soon resulted in great developments. The number of climatological stations was rapidly increased; in 1871 there were 55, in 1898, 80. The collection of rainfall statistics also interested Prof. Mohn greatly, and by 1890 he had established nearly 100 stations. In 1895 the number reached about 300, and a few years later 500 stations reported rainfall to the institute.

The international exchange of telegrams was also developed. As early as 1869 telegrams were received from Great Britain. Denmark commenced in 1871, Sweden in 1873; Russia, Finland, Germany, and France began in 1892, and the Faroe Islands in 1907. Spitzbergen, Austria-Hungary, and Italy joined in 1912, followed in 1913 by Holland, Spain, Portugal, and Madeira.

Meanwhile the telegraphic reporting of observations from Norwegian stations was increased. By 1892, 33 stations reported by telegraph, while by 1914 the number had increased to 69.

Services of storm warnings and forecasts were commenced early in the history of the institute. The reports and publications were organized and developed, and the volume gives diagrammatic representations of the growth of the institute's reporting stations, staff, budget, and library.

Aerology received much attention at the beginning of the present century. Sounding balloons were sent up, and in 1909 pilot balloon ascents were begun. In 1912 this part of the work was taken over by Prof. V. Bjerknes, and it is now carried on by the observatory at Aas.

Notes are given on the past and present members of the staff of the institute and detailed descriptions of the growth and work of each of the three sections dealing with climatology, forecasting, and rainfall respectively. The establishment and work of the observatories at Aas, Bergen, and Haldde are described, and the book is illustrated by interesting photographs of the institute and observatories and by reproductions of charts and diagrams.

FREQUENCY OF SNOW IN TRIPOLI AND ALGERIA.

[*Reprinted fom* Nature, London, Jan. 3, 1918, **100**: 350.]

Prof. Filippo Eredia has recently published in the *Bolletino d'Informazione* of the Italian colonial office a useful note on the frequency of snow in Tripoli and in Algeria. In the last-named country, at sea level, snow is rare, since only one fall in the whole year may be expected. At a height of 600 meters, 6 falls per annum occur on the average, while at double this elevation, 25 falls are experienced. In Algeria and Tunisia the most frequent and extensive snowfalls occurred in the winter of 1890–91, while 1884, 1904–5, 1913, and 1915 were also characterized by abundant snowfalls. Some interesting photographs are given of snow scenes in Tripoli during the snowstorms of February, 1913, and February, 1915.

"PRAYING" PALM TREE OF FARIDPUR.

[*Reprinted from* Nature, London, Mar. 28, 1918, **101**: 70.]

The [Indian?] *Pioneer Mail* of January 11 reports a lecture by Sir J. C. Bose on "The Praying Palm Tree" of Faridpur. While the temple bells call the people to evening prayer this tree has recently been seen to bow down in prostration and to erect its head on the following morning. Large numbers of pilgrims have been attracted to the place, and offerings to the tree are said to have been the means of effecting marvelous cures. Sir J. C. Bose first procured photographs which proved the phenomenon to be real. The next step was to devise a special apparatus to record continuously the movement of the tree by day and night. The records showed that it fell with the rise of temperature and rose with the fall. The records obtained in the case of other trees brought out the fact that all the trees are moving, each movement being due to changes in their environment.

"SUMMER TIME" IN 1918.

[*From* Nature, London, Mar. 14, 1918, **101**: 27.]

Summer time began in France and Italy on March 10; it begins in Great Britain on March 24, and will begin in Holland on April 1. The dates on which summer time ends are also different in different countries. However, much "daylight saving" by alteration of clocks may be appreciated by the public, there can be no doubt that the varying dates adopted for the beginning and ending of the change of standard are most confusing, and will render it very difficult to determine the exact instant at which any records of observations of natural occurrences are made.

RUSSIA ADOPTS THE GREGORIAN CALENDAR.

[*From* Nature, London, Feb. 21, 1918, **100**: 488.]

We learn from a message from the Petrograd correspondent of the *Times*, published in the issue of February 20, that the abolition of the Julian calendar and the substitution of the reformed, or Gregorian, calendar has been formally announced by the Government of the People's Councils. "Attempts from the time of Peter the Great to effect this reform have always failed through ecclesiastical opposition, but now that the Orthodox Church has been divorced from the State its opinions and traditions are entirely ignored."

DIURNAL VARIATION OF ATMOSPHERIC PRESSURE.

[*Abstract reprinted from* Nature, London, May 30, 1918, **101**:253–254.]

The effect of geographical latitude on the semidiurnal wave of atmospheric pressure is fairly regular and well marked, but the variation of the diurnal wave has attracted less attention since Angot in 1887, and also Hann, showed conclusively its dependence on secondary local conditions. Three Japanese investigators from the Geophysical Seminary of the Physical Institute, Tokyo, contribute an account [1] of a preliminary attempt to trace more definitely the mechanism of these local influences, one of the most obvious of which, under the name of "continentality," has recently been attracting the attention of Mr. C. E. P. Brooks in this country in connection with climate, and with a purely geographical theory of the ice age.

The elementary definition of continentality as the percentage of land in a circle of definite size (say 10° radius) surrounding the station is clearly insufficient, so much depending upon the orientation and shape of the coast line or lines that the form of the function is bound to be complicated. The Japanese authors soon come to the conclusion that it is not linear, and are constrained to make a series of simplifying assumptions in order to reach a workable hypothesis. The assumptions are no more probable than those of the early days of the theory of tides, with which the present problem has obvious analogies.

With these limitations the authors appear to account for such features as the variation with longitude, the inversion of phase near the poles, and the minimum amplitude near the coast, but a general solution of the problem has evidently not yet been reached. They indicate the lines on which they propose to continue the investigation, and conclude with a representative set of daily variation curves for 10 British observatories, showing considerable dissimilarity, those of Oxford and Aberdeen, for instance, being almost the converse of each other. A systematic series of stations within the Empire, chosen with special reference to the elucidation of this problem, may well form part of the program of coordinated British Empire meteorology so strongly advocated by Maj. Lyons in his presidential address to the Royal Meteorological Society.

The barometric variations dealt with in the above paper, as generally studied, are naturally to be regarded as vertical oscillations of the free atmosphere, though there is a possible difficulty in the differentiation between statical and dynamical pressure, when an ascending or descending current is in question. But there is also a very decided horizontal oscillation or motion of the free atmosphere, and this has begun to attract attention since the use of pilot balloons has provided more information about the direction of the wind at different heights than can be inferred from the motion of clouds. A paper from Batavia [2] has appeared in the Proceedings of the Royal Academy of Amsterdam dealing with the semidiurnal variation of this motion.

There is a good deal of uncertainty about the investigation, even in a favorable place like Batavia, where atmospheric conditions are as a rule very quiet and steady. Observations were made not only at Batavia, but also at a neighboring mountain station of 3,000 meters elevation, as well as from a small coral island, to eliminate the land effect. Single observations are included, specially at times of the day when convection currents are not in evidence in the lower atmosphere; otherwise double observations by day and by night were obtained with different base lines of approximately one-half mile, 1 mile, and 1½ miles in length. Some hundred of ascents were observed, of which a fair proportion reached a height between 9 and 11 kilometers, only 30 per cent failing to reach the 4-kilometer level.

The data are admittedly insufficient to determine a diurnal oscillation, but Dr. van Bemmelen is fairly satisfied with the result for the semidiurnal one. The east and north components are treated separately, and it is found that the former has a greater amplitude than the latter and also a better determined phase. Gold's theoretical results for the lower layers are confirmed (Phil. Mag. vol. 19). The phase of the east component diminishes up to 4 kilometers, and probably increases above that height, showing a fairly close analogy with the vertical oscillations.—*W. W. B.*

[1] *Terada, T., Kiuti, M., & Tukamoto, J.* On diurnal variation of barometric pressure. Jour., Coll. sci., Imp. univ. Tokyo, November 20, 1917, 41, art. 1.

[2] *Van Bemmelen, W., & Boerema, J.* Semidiurnal horizontal oscillation of the free atmosphere up to 10 kilometers above sealevel, deduced from pilot-balloon observations at Batavia. Proc., Roy. acad., Amsterdam, 1917, 20:119-135, plate.

See also the abstract in this REVIEW, January, 1918, 46:22.

SPRING OF 1918 IN THE BRITISH ISLES.

[*Reprinted from* Nature, London, May 9, 1918, 101: 190-191.]

Spring this year has somewhat resembled that of last year, except that the early days of May this year have been much colder. The reports issued by the Meteorological Office show that the cold spells which have prevailed with such persistence in London have been common over the whole of the British Islands. March was, for the most part, dry, mild, and sunny; the mean temperature at Greenwich was 44°, which is 2 degrees above the average, and 5 degrees warmer than March, 1917. The mean temperature for April this year was 45°, which is 3 degrees below the average, but 2 degrees warmer than April last year. The warmest week since the commencement of spring is the week ending March 23, when at Greenwich the mean temperature was 48.2°, which is 5.4 degrees above the average. The week with the greatest deficiency of temperature is the week ending April 20, when the mean was 40.4°, with a deficiency of 6.9 degrees; during this week the rainfall at Greenwich measured 1.79 inches, which is 0.2 inch more than the average for the whole month. In London, at Tulse Hill, in a Stevenson's screen, the maximum thermometer only rose to 60° or above on three days in April, and the highest temperature was 63°; while in March there were seven such warm days, and the highest temperature was 69°. April this year was peculiarly sunless, and this, coupled with the low temperature, kept vegetation throughout the month greatly at a standstill.

DANISH REPORT ON ARCTIC ICE DURING 1917.

[*Abstract reprinted from* Nature, London, May 30, 1918.]

The Danish Meteorological Institute has published its report for 1917 on the state of the ice in the Arctic seas (Isforholdene i de Arktishe Have). War conditions have made it impossible to obtain as full reports as usual except from the coasts of Greenland, Iceland, Spitzbergen, and the Barents Sea. In Spitsbergen and the Barents Sea the ice conditions were again abnormal and most unfavorable. The winter ice in Spitsbergen fjords broke up a month later than usual, and the autumn ice formed several weeks ahead of the average date. There was pack ice off the west coast of Spitsbergen throughout the summer months. The coast was most approachable during the first half of August and the second half of September. Throughout the summer it seems, as usual,